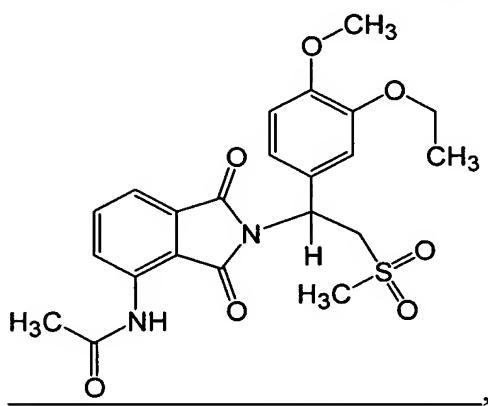


Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method for modulating the proliferation or differentiation of a mammalian hematopoietic stem cell or hematopoietic progenitor cell, comprising contacting said cell ~~under suitable conditions~~ with a compound ~~that inhibits phosphodiesterase IV (PDE IV)~~ activity, for a sufficient time such that differentiation of the stem cell or progenitor cell is modulated, wherein said compound is not a polypeptide, hormone, cytokine, or nucleic acid having the formula:



or is a salt, hydrate, solvate, clathrate, enantiomer, diastereomer, racemate, or mixture of stereoisomers thereof, for a sufficient time such that said proliferation or differentiation of the stem cell or progenitor cell is modulated.

2. (Previously presented) The method of claim 1 wherein said cell differentiates into a hematopoietic cell.

3. (Canceled)

4. (Canceled)

5. (Withdrawn) The method of claim 1, wherein said contacting is conducted in cell culture.

6. (Currently amended) The method of claim 1, wherein said contacting is conducted ~~within a subject~~ *in vivo*.

7. (Original) The method of claim 1 wherein said compound is present at a concentration of from about 0.005 µg/ml to about 5 mg/ml.

8. (Previously presented) The method of claim 1 wherein the cell is a human stem cell.

9. (Currently amended) The method of claim 1 wherein said ~~mammalian stem cell or progenitor~~ cell is a CD34⁺ or CD133⁺ ~~progenitor~~ cell.

10. (Canceled)

11. (Previously presented) The method of claim 9, wherein said stem cell or progenitor cell differentiates into a CD34⁺CD38⁻CD33⁺ or CD34⁺CD38⁻CD33⁻ cell.

12. (Withdrawn) The method of claim 9, wherein said contacting is conducted in cell culture.

13. (Currently amended) The method of claim 9, wherein said contacting is conducted ~~within a subject~~ *in vivo*.

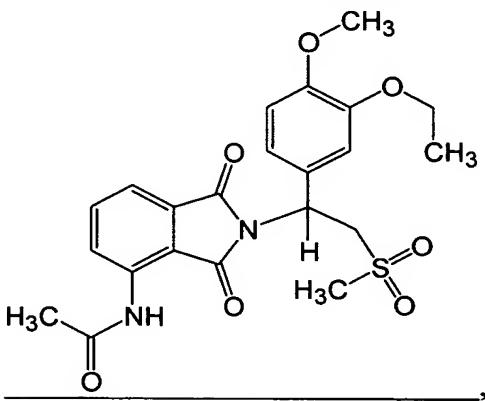
14. (Currently amended) The method of claim 13, wherein said ~~cells are cells~~ cell is a cell that ~~have has been transplanted into said~~ administered to a mammalian subject.

15. (Canceled)

16. (Currently amended) The method of claim [[9]] 1, wherein said cell is a CD34⁺ or CD133⁺ cell that has been cryopreserved and thawed prior to said proliferation or differentiation.

17.-24. (Canceled)

25. (Currently amended) A pharmaceutical composition comprising a mammalian ~~cell stem cell or progenitor cell~~ and a pharmaceutically-acceptable carrier, wherein said cell is a hematopoietic stem cell or progenitor cell that has been contacted with a compound that inhibits PDE IV activity for a time sufficient to cause modulation of differentiation or proliferation of said stem cell or progenitor cell, and wherein said compound is ~~not a polypeptide, hormone, cytokine, or nucleic acid~~ has the formula:



or is a salt, hydrate, solvate, clathrate, enantiomer, diastereomer, racemate, or mixture of stereoisomers thereof.

26. (Currently amended) The pharmaceutical composition of claim 25 wherein the hematopoietic stem cell or progenitor cell is selected from the group consisting of an

~~embryonic stem cell, a placental stem cell, a cord blood stem cell, a peripheral blood stem cell, and a bone marrow stem cell.~~

27. (Canceled)

28. (Withdrawn) The pharmaceutical composition of claim 25 wherein said hematopoietic stem cell or progenitor cell is contacted with said compound in cell culture.

29. (Previously presented) The pharmaceutical composition of claim 25 wherein said compound is present at a concentration of from about 0.005 mg/ml to about 5 mg/ml when contacted with said cell.

30. (Currently amended) The pharmaceutical composition of claim 25 wherein the hematopoietic stem cell or progenitor cell is a human stem cell.

31. (Canceled)

32. (Currently amended) The pharmaceutical composition of claim [[31]] 25 wherein said hematopoietic stem cell or progenitor cell is [[a]] CD34⁺ or ~~CD38⁺~~ hematopoietic cell CD133⁺.

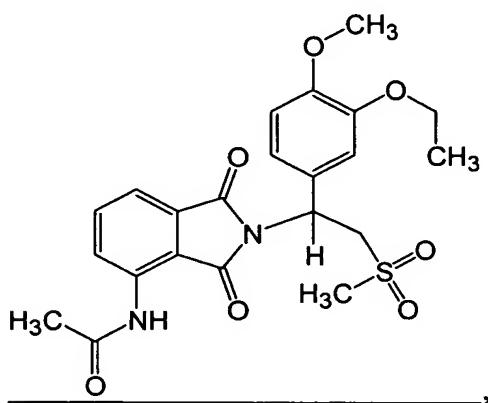
33. (Currently amended) The pharmaceutical composition of claim [[31]] 25 wherein the hematopoietic stem cell or progenitor cell is a CD11b+ cell.

34.-45. (Canceled)

46. (Withdrawn) A method of transplanting administering a treated mammalian stem cell to an individual comprising:

(a) contacting said a hematopoietic stem cell or progenitor cell with a PDE IV-inhibitory compound to produce a treated mammalian cell, wherein said contacting is sufficient to modulate the differentiation of said stem cell or progenitor cell; and

(b) administering said treated mammalian cell to an individual, wherein said compound is not a polypeptide, hormone, cytokine, or nucleic acid has the formula:



or is a salt, hydrate, solvate, clathrate, enantiomer, diastereomer, racemate, or mixture
of stereoisomers thereof.

47. (Withdrawn) The method of claim 46, wherein step (b) comprises administering said treated cell in combination with untreated cells.

48. (Withdrawn) The method of claim 47 wherein the untreated cell is an embryonic stem cell, a placental cell, a cord blood cell, a peripheral blood cell, or a bone marrow cell.

49. (Withdrawn) The method of claim 46, wherein said cell has been cryopreserved and thawed prior to said administering.

50.-101. (Canceled)

102. (New) The method of claim 1, wherein said cell is a CD11b+ cell.